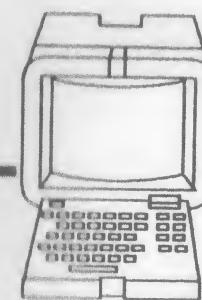


**TERMINATEL 257**

*Triple standard*

## **ADVANCED USER MANUAL**



**TELIC**

ALCATEL

**TELIC**

ALCATEL

## Presentation of the Terminate1 257

**BEFORE YOU REMOVE THE MAIN CORD**

- 1) The connection to the network must be disconnected before the plug is removed
- 2) The connection to the network must not be hardwired.

Terminate1 257 connections

## Presentation of the Terminate1 257

**CONDITIONS OF USE**

If you do not have appropriate British Telecom standard sockets installed, you should make necessary arrangements as soon as possible.

If you have a private exchange with wiring not owned by British Telecom, contact the authorised maintainer of your exchange, if you want someone else to alter the wiring you must give the authorised maintainer of your exchange 14 days written notice.

Otherwise contact your local British Telecoms sales office. You can do this by phone or completing the attached form (you will find the address in the front of your telephone directory). British Telecom will be happy to supply details of installation and rental charges.

**NOTES CONCERNING CONNECTIONS**

1/ This apparatus is not suitable for connection to :

- shared service lines,
- 1 + 1 carrier systems,
- extension payphones.

This apparatus is suitable for connection to BT exchange lines with an associated telephone employing loop disconnect or DTMF signalling.

**COMPATIBLE PABX's**

This apparatus is approved for PABX's and that the supplier should be consulted for up to date lists of PABX's with which apparatus is compatible and that there is no guarantee of working in all circumstances. Any difficulties should be referred to the telephone supplier.

This apparatus is suitable for connection to a suitable PBX which returns secondary proceed indication.

This apparatus is suitable for connection to a Relevant Branch System, for a definition of an RBS refer to BS6789 section 6.1 clause 2.4.

Terminate1 257 connections

## Presentation of the Terminate tel 257

## 2/ This terminal has a REN value of 1

The REN relation to the performance of the apparatus when used in combination with other items of apparatus. The REN is a customer guide indicating approximately the maximum number of items of apparatus that can be connected simultaneously to an exclusive line, the total REN obtained by the summing of the REN values of each of the items of apparatus connected to the exclusive line should not exceed the maximum REN value of 4. This value includes any BT provided instrument of which is assumed to have a REN value of 1 unless otherwise stated.

A BS6312 style socket is provided on the rear of the terminal in order to connect an associated telephone for call establishment purposes.

A V28 Peripheral Port is provided for connection of associated apparatus.

WARNING ! connect only apparatus complying with BS6301 to these ports.

A voltage drop exists between the socket and the connection to the PSTN of 0,1 V at 40 mA.

WARNING ! interconnection directly or by way of other apparatus of ports marked in accordance with 5.2 with ports marked or not so marked may produce hazardous conditions on the network and that advice should be obtained from a competent engineer before such a connection is made.

WARNING !

- (1) The connection to the BT network must be unplugged before the earth is disconnected.
- (2) The connection to the BT network must not be hard wired.

3/ The approval of the modem for connection to the BT public switched network is INVALIDATED if the apparatus is subject to any modification in any material way not authorized by BABT or if it is used with or connected in :

- a/ internal software that has not been formally accepted by BABT,

## Presentation of the Terminate tel 257

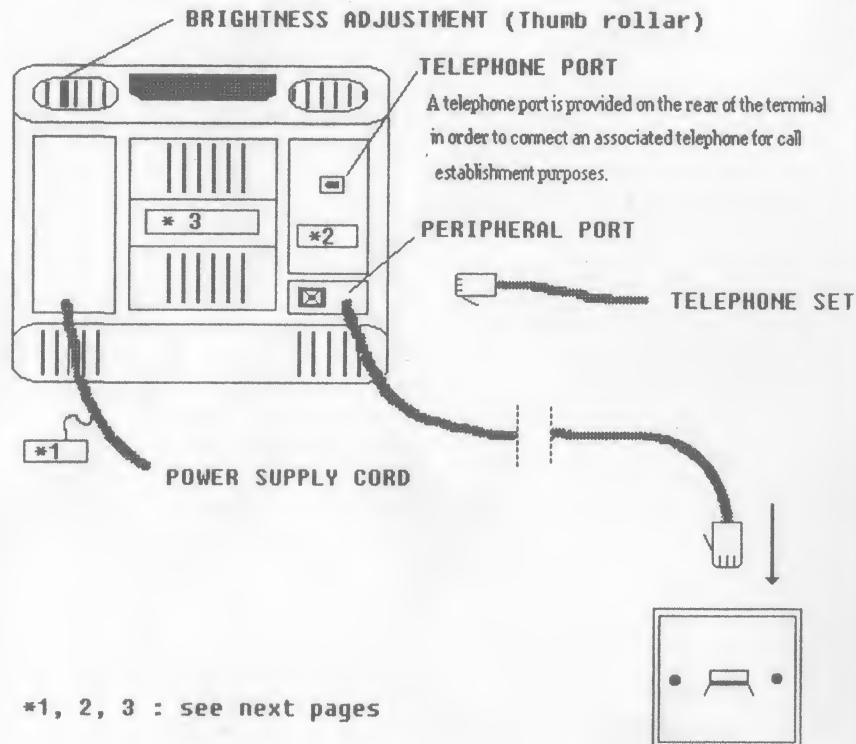
## b/ External control software or external control apparatus which causes the modem or associated call set up equipment to contravene the requirements of the standard set out in BABT/SITS/82/005S/D.

4/ This apparatus has been approved for the use of the following facilities :

- with an associated telephone,
- auto clear from the call originating end (loss of carrier signal),
- series connection.

Any other usage will invalidate the approval of the apparatus if as a result it then ceases to comply with the standards against which approval was granted.

## Presentation of the Terminate 257



\*1, 2, 3 : see next pages

The statement that must appear in the user guide which protects the V28 and telephone port must state "WARNING! Interconnection directly or by way of other apparatus of ports marked in accordance with 5.2 with ports marked or not so marked may produce hazardous conditions on the network and that advice should be obtained from a competent engineer before such a connection is made"

Terminate 257 connections

## Presentation of the Terminate 257

## FLEXIBLE CORD WARNING LABEL

If the sockets outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate three pin plug fitted.

**Note :** The plug severed from the mains lead must be destroyed, as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

Use a 5A fuse approved by ASTA to BS 1362, i.e. carries the  mark

Always replace the fuse cover, never use the plug with the fuse cover omitted.

**WARNING - THIS APPLIANCE MUST BE EARTHED**

RELIANCE CORDS & CABLES LTD an Agency Company of BICC plc

\* 1 : Main cable sticker

## IMPORTANT

The wires in this mains lead are coloured in accordance with the following code

Green and Yellow - Earth Blue - Neutral Brown - Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Green and Yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol  or coloured Green or Green and Yellow.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured red.

Terminate 257 connections

## Presentation of the Terminate1 257

## \* 2 : TELEPHONE CONNECTION STICKER

WARNING !  
Connect only apparatus  
complying with BS6301  
to these port

## \* 3 : BABT APPROUVAL STICKER

APPROVED For connection to  
telecommunication system specified in  
the instructions for use subject  
to the condition set out in them

Terminate1 257 connections

## Terminate1 257 - Triple Standard

## Table of contents

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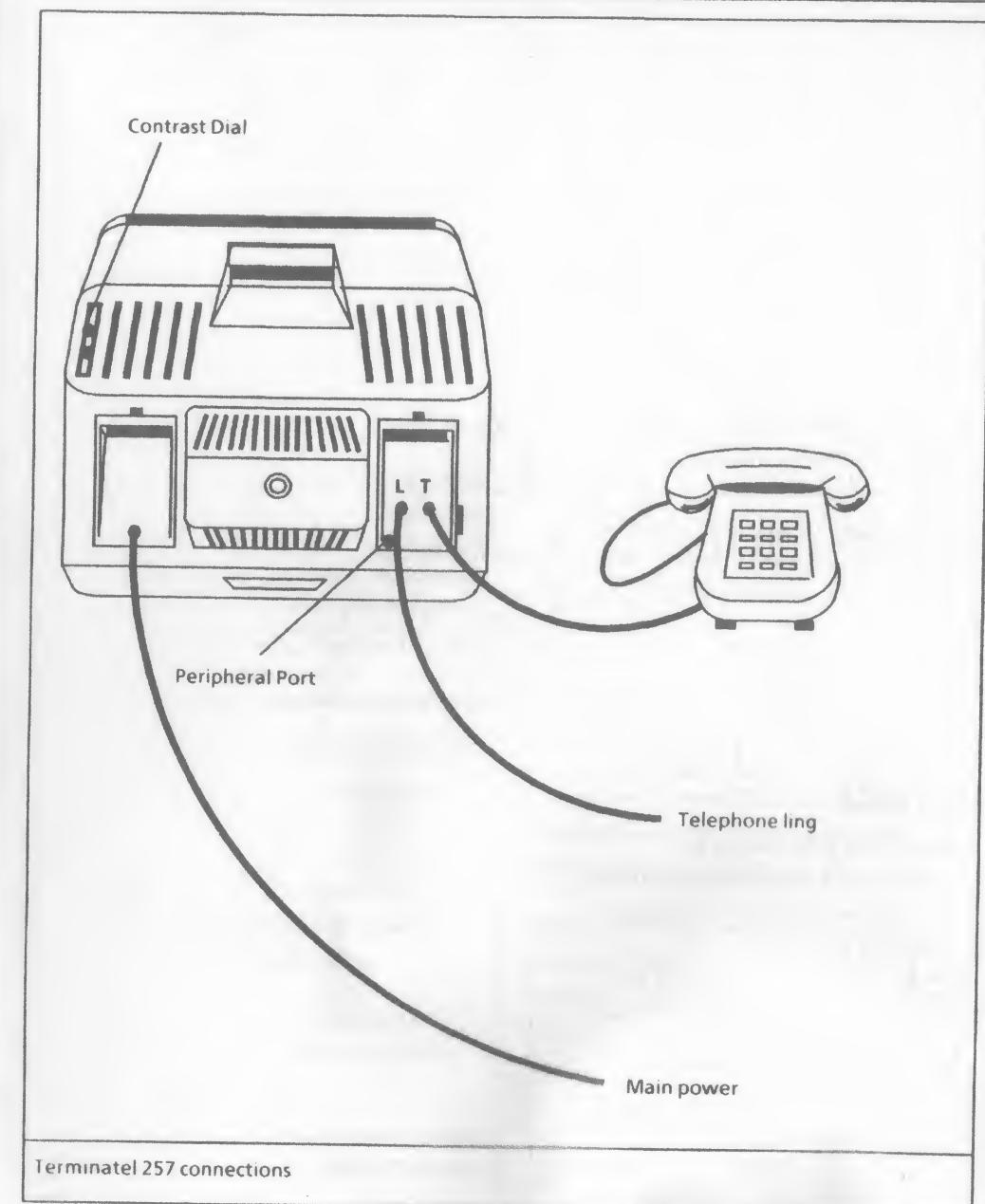
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**Terminatel 257 - Triple Standard****Foreword**

This manual is intended for professionals who want to use the dual standard Minitel as a teleprocessing terminal, but is not to be considered as a substitute for the "Spécifications Techniques d'Utilisation du Minitel 1 Bistandard" (STUM 1B) available from:

**CNET PARIS A**

Département Documentation Technique  
38-40 Avenue du Général Leclerc  
92131 Issy-les-Moulineaux  
FRANCE

**Presentation of the Terminatel 257**

## Presentation of the Terminate 257

This Minitel\* operates in three standards:

**Prestel standard including:**

- A videotex 40-column screen,
- A standard Minitel keyboard with Prestel function keys:

F1 = \*0#  
F2 = \*\*  
F3 = \*#  
F4 = \*00  
F7 = #

Automatic repetition of the character by holding your finger on the key.

**A teletel \*\* standard including:**

- A videotex mode characterized by:
  - a Videotex 40-column screen;
  - a standard Minitel keyboard with Teletel function keys ;
  - the possible utilisation of cursor control and editing keys

- A mixed mode characterized by:
  - an 80-column screen (standard ISO 6429) with the American ASCII character set.
  - a keyboard with activated keys for cursor control and editing, as well as Teletel function keys

**A teleprocessing standard characterized by:**

- an 80-column screen (standard ISO 6429) with American ASCII (screen capability 40 columns in the previously chosen set).
- a keyboard with activated cursor control and editing keys and whose Teletel function keys generate sequences other than CTRL those of the Teletel standard (encoding corresponds to the function keys of a teleprocessing terminal (PF1, PF2...)).

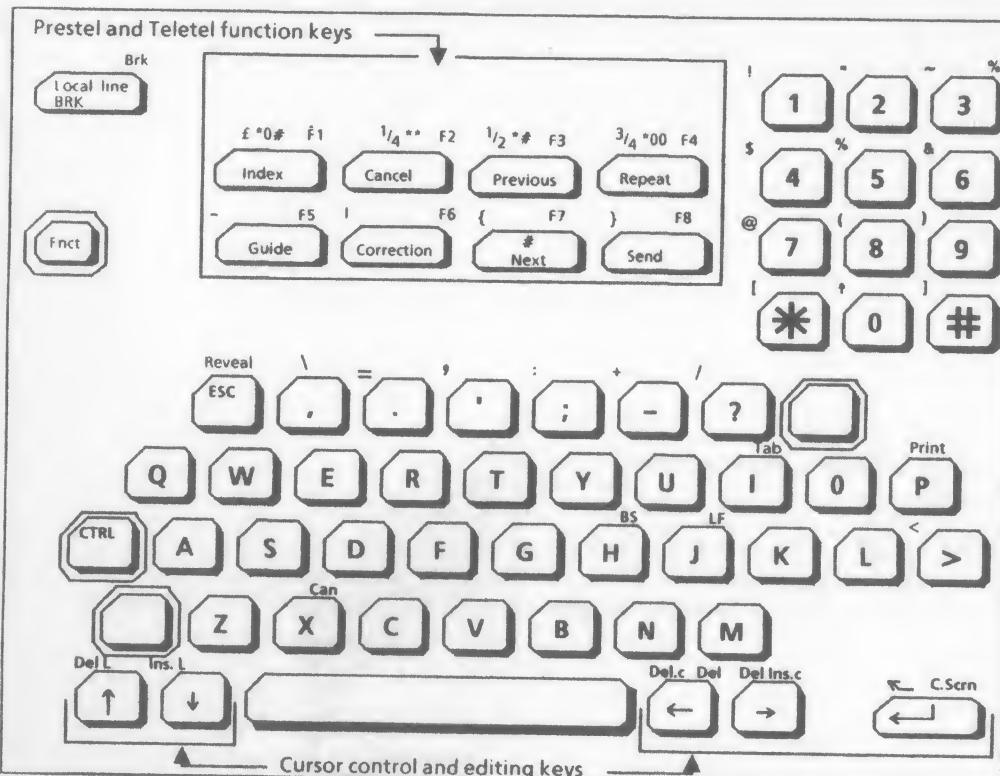
**For all standards, the following are available:**

- screen copy software to simplify printer connection,
- the detection of pending telephone calls during a teleprocessing transaction (for subscribers who have opted for this service, and if the exchange to which they are connected is adapted to it).

\* Minitel. France Telecom Trademark

\*\* TELETEL: name given to French interactive videotex system

## Description of keyboard



The Terminate standard keyboard is divided into:

- function keys
- writing keys (alphabetical, digital, punctuation and accentuation characters)
- cursor management and editing keys.

Each key can be used on its own or together with the key (circled in gold), or the key (circled in red).

Depending on the Teletel or teleprocessing

standard and the American ASCII set in the teleprocessing mode, some keys may have different significances (see page 29).

The characters engraved into the keys and placed above the keys in red and gold correspond to the Teletel standard.

## Key Fnct

The Fnct key is a new Minitel key. The use of the Fnct key combined with other keys on the keyboard is used for entering commands which change the state of the terminal:

- choice of standard
- modification of some parameters with the terminal concerning the keyboard, screen, modem and the peri-processing connector
- implementation of the screen copy.

## Remark:

On energizing, the terminal is always in the initial state of the Prestel standard in the Videotex mode.

## Use of Fnct

## With a letter and a parameter

The Fnct key when depressed at the same time as a letter, initializes a control, as listed in the appendix pages 25 to 28. When the two keys are released, it is necessary to specify the function desired by a parameter, while depressing a letter or a figure. For instance, to change to the teleprocessing standard:

Fnct M then A  
simultaneously

NB: The controls entered with the Fnct key are easily stored because the simultaneously depressed letter is the initial of the Minitel section concerned with the order:

K = keyboard D = screen (display)

T = transmission B = connector speed

M = Mode (Baud)

P = printing

Similarly, the third key calls out the function:

R = return (for modem)

A = American ASCII (for the ASCII set)

S = change from upper case to lower case and

## With a figure

When the Fnct key is depressed at the same time as a figure from 0 to 9, in the teleprocessing standard, it generates sequences as listed in the following figure.

Sequences emitted by the key followed by a figure from 0 to 9						
Fnct 0	1/B	4/F	7/0	(Esc	O	p)
Fnct 1	1/B	4/F	7/1	(Esc	O	q)
Fnct 2	1/B	4/F	7/2	(Esc	O	r)
Fnct 3	1/B	4/F	7/3	(Esc	O	s)
Fnct 4	1/B	4/F	7/4	(Esc	O	t)
Fnct 5	1/B	4/F	7/5	(Esc	O	u)
Fnct 6	1/B	4/F	7/6	(Esc	O	v)
Fnct 7	1/B	4/F	7/7	(Esc	O	w)
Fnct 8	1/B	4/F	7/8	(Esc	O	x)
Fnct 9	1/B	4/F	7/9	(Esc	O	y)

## With a non-scheduled key

When the Fnct key is depressed at the same time as a key not provided for in the list of control combinations, or followed by a non-predicted parameter, the terminal emits an audible beep.

## Remarks:

- An incomplete control is cancelled by the following action:

- Cancel key;
- incorrect parameter
- another control using the Fnct key.

- Some controls are in the "flip-flop" mode, i.e. the same action causes the terminal to return to the previous state

## Prestel Standard

The Prestel mode; this is the initial state of the terminal on energizing or

Fnct M then P  
simultaneously

## Keyboard

## Initial state

## Modifications

## Controls

The writing keys are in the upper case. Changeover to lower case means simultaneously depressing the Fnct key and the corresponding letter.

Set the keyboard to the lower case mode.

Fnct K then S  
simultaneously

Return to initial state (upper case mode)

Fnct K then S  
simultaneously

In basic Prestel mode six of the eight function keys are used to emulate the most frequently.

## Used Prestel commands:

- F1 \*0# Index (returns to the host computer index menu)
- F2 \*\* Cancel (cancel last request)
- F3 \*# Previous (return to previous page transmitted)
- F4 \*00 Repeat (retransmits current page)
- F6 BS Back Space to erase typed character
- F7 # Next (selects next page)

Local line connects/disconnects terminal from service or network.  
F5 & F8 are inactive.

With the communications protocol active, each function key generates a sequence that can be recognized by the host computer.

## Prestel control keys:

- Control key Ctrl encircled in red.
- The control key provides access to the Prestel character CO (Del, LF, Clear, Screen etc.).
- Cursor keys (HT, UT, BS, LF, Space)



## Reveal control (Fnct + Esc)

The masked character reveal function is accessed by using simultaneously the Fnct key + the Esc key.

**Prestel Standard**

For the Teletel standard using the control.



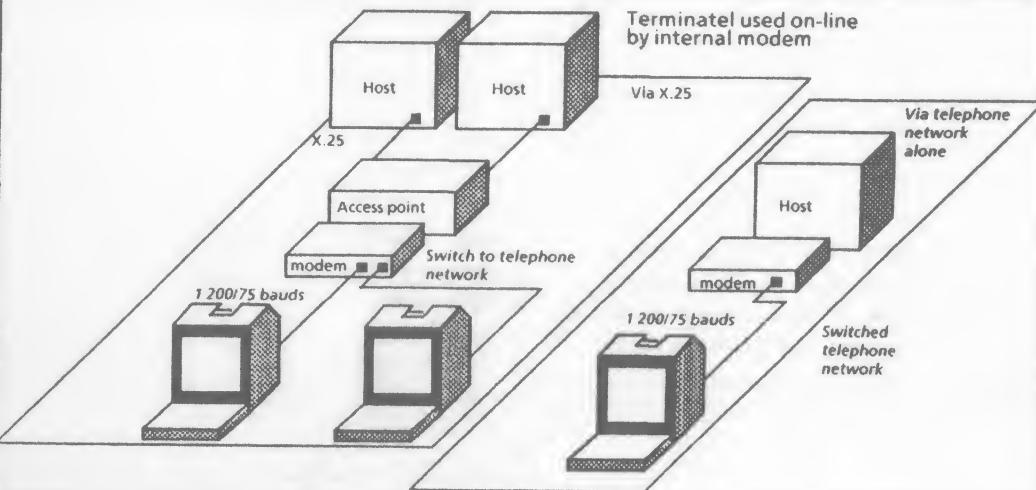
For the Teleprocessing standard using the control.

**Teletel Standard****Teletel standard**

Display standard: - Videotex in "Videotex mode"

- ISO 6429 in "mixed mode"

Communication protocol: Teletel

**Link between Terminitel and distant hosts**

The Terminitel can call a host

- either via the teletel access service
- or via the end-to-end switched telephone network.

As indicated in the operating instructions

Terminitel 257 "brochure":

- make the connections necessary (power supply, telephone connector, peripherals)
- switch on the terminal.

The letter LP should appear at the top right of the screen.

On energizing, your Minitel is in the Prestel standard mode (40-column screen).

The host or peripheral can switch your Minitel to the mixed mode which, in the Teletel standard, provides you with an 80-column screen and ASCII character set.

You can return to the Prestel mode standard using the control



## Teletel Standard

You can return to the Teletel mode standard using the control

  then   
simultaneously

The particularity of the Teletel standard is the part played by function keys (, , ...), which is always the same, whether the Videotex or mixed mode is being used.

The Videotex mode enables you to consult teleprocessing services (electronic directory, Teletel services, ...). On energizing, the terminal is put into the initial Videotex mode Prestel standard. Using the controls activated with the  key, some of the characteristics of the terminal can be changed.

Modifications can also be obtained using the controls sent to the dual standard Minitel 1 by the access point, the host or the peripheral (see pages 19 and 20).

Changeover to the mixed mode can only be controlled from the access point, host or peripheral. In this mode, the screen is at 80 columns with one character set (American ASCII). The ,  keys controlling the cursor and editing are activated.

The function keys are to Teletel standards.

Pages 10 to 18 give, by mode, a list of terminal characteristics in the initial state, the possible modifications and the associated controls. Some characteristics are common to both modes.

### Teletel standard, Videotex or mixed mode function keys

The use of the Minitel function keys is indicated by the service you are consulting. The utilization most often used is stipulated in the Terminatel 257 operating instructions brochure.

N.B.:

#### Compatibility with PAD X3

To use the Minitel on Teletel standards in foreign countries via the PAD X3 facilities of data networks, an ISO 2022 type function key encoding option can be obtained by entering the control:

  then    
simultaneously simultaneously

Return to Prestel type encoding is obtained by switching the Minitel on and off.

## Teletel Standard in the Videotex mode

The Videotex mode is the state when using the control

  then   
simultaneously

Keyboard	Modifications	Controls
Initial state		
The writing keys are in the upper case. Changeover to lower case means simultaneously depressing the  key and the corresponding letter.	Set the keyboard to the lower case mode.	  then  simultaneously
	Return to initial state (upper case mode)	  then  simultaneously
	The cursor control and editing keys, the  and  keys alone are inactive, except for the carriage return fonction.	Activate the cursor and editing control keys and depress   . Depending on the consulted service, the utilization of these keys allows the cursor to be shifted, a carriage return, an insertion or deletion of a line or character.
		<b>Automatic repetition</b> of the character by holding the finger on the key is also activated.
	N.B.:	
	The editing functions are controlled by the service.	
Screen		
Initial state		
40-column display with Videotex attributes (alphamosaic characters, video inversion, under-lining...) in page mode.	Send the CO set characters to control the cursor. The editing functions are no longer available.	  then  simultaneously
	Return to initial state	  then  simultaneously
Modifications		
	Put screen into scroll mode	  then  simultaneously
	Return to page mode	  then  simultaneously

**Teletel Standard in the Videotex mode****Modem****Initial state**

The transmit/receive speed is:  
75/1200 Bauds

**Modifications**

**Return the modem to 75/1200 Bauds to have two Minitels communicate with one another (opposed mode)**

This operation is only possible from the keyboard in the local mode.

When the modem is in the opposite mode, a small I replaces the capital L at the top right of the screen.

Return to the initial state

**Controls**

Fnct then T  
simultaneously  
then R

two times Local Line  
or  
Fnct then M  
simultaneously  
then T

**Controls**

Fnct then S  
simultaneously  
Fnct then S  
simultaneously

Fnct then B  
simultaneously  
Fnct then B  
simultaneously  
Fnct then 3  
simultaneously  
Fnct then B  
simultaneously  
Fnct then 1  
simultaneously  
Fnct then B  
simultaneously  
Fnct then 4  
simultaneously

**Inactive error correction procedure (PCE)****Activate PCE**

Fnct then T  
simultaneously  
then C

**Connector****Initial state**

The information from the modem and keyboard is sent to the peri-processing connector (see pages 17 and 18: peri-processing connector, peripherals and copy on printer)

**Modifications**

**Inhibit the connector. (standby)**  
This state is identified by the display of an S at the top right of the screen.

Return to the initial state

**Controls**

Fnct then S  
simultaneously  
Fnct then S  
simultaneously

The standard speed of exchanges by the connector is 1200/1200 Bauds.

**Modify the speed of exchanges by the connector.**

300/300

1200/1200

4800/4800

**Terminal****Initial state**

The echo is provided by the terminal in the local mode and by the access point or host in the on-line mode

**Modifications**

Reverse the echo rule: inhibit the terminal echo in the local mode and activate the terminal echo in the on-line mode.

Return to initial state

**Controls**

Fnct then M  
simultaneously  
Fnct then M  
simultaneously  
then E

**Teletel Standard mixed mode**

(controlled by host, access point or peripheral - see page 21)

**Keyboard****Initial state**

The Ctrl, Esc cursor control and editing keys are activated (CSI sequences).

**Modifications**

**Return to Videotex keyboard**

**Controls**

Fnct then K  
simultaneously  
Fnct then K  
simultaneously  
then V

Return to initial state.

Writing in capitals  
(upper case)

**Set keyboard to capitals mode**

Fnct then K  
simultaneously  
Fnct then K  
simultaneously  
then S

Return to initial state.

**Screen****Initial state**

80-column screen with American ASCII character set. Scroll mode display

**Modifications**

**Put screen into page mode**

**Controls**

Fnct then D  
simultaneously  
Fnct then D  
simultaneously  
then P

Return to scroll mode.

**Controls**

Fnct then T  
simultaneously  
Fnct then R

**Modem****Initial state**

The transmit/receive speed is:  
75/1200 Bauds

**Modifications**

**Return the modem to 75/1200 Bauds to have two Minitels communicate together (opposite mode)**

This operation is only possible from the keyboard in the local mode.

When the modem is in the opposite mode, a small I replaces the capital L at the top right of the screen

**Controls**

Fnct then T  
simultaneously

**Controls**

two times Local Line  
or  
Fnct then M  
simultaneously  
Fnct then T  
simultaneously

Inactive error correction procedure (PCE)

**Activate PCE**

Fnct then T  
simultaneously  
Fnct then C

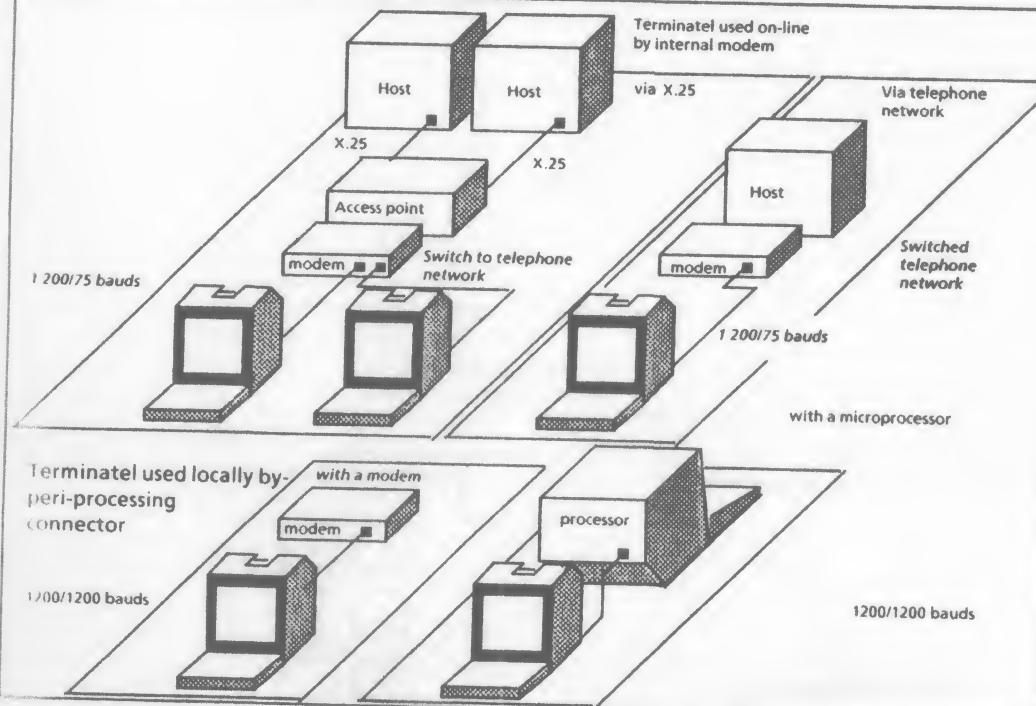
## Teletel Standard mixed mode

Connector	Initial state	Modifications	Controls
		<b>Inhibit the connector. (standby)</b> This state is identified by the display of an <b>S</b> at the top right of the screen.	 
		Return to the initial state	
		<b>Modify the speed of exchanges by the connector.</b>	
	300/300		
	1200/1200		
	4800/4800		
Terminal	Initial state	Modifications	Controls
		<b>Invert the echo rule:</b> inhibit the terminal echo in the local mode and activate the terminal echo in the on-line mode.	 
		Return to initial state	

## Teleprocessing Standard

Display standard: ISO 6429 with American ASCII set. Communication protocol: the Teletel communication protocol is no longer active.

Links between the Terminal and the computer in the local or on-line mode.



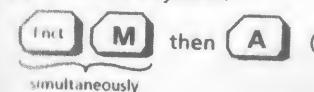
As indicated in the "Terminatel 257 operating instructions":

make the necessary connections (power supply, telephone connector, peripherals);  
turn on the terminal. Letter **L** should appear at the top right of the screen ;  
if you are working in the local mode, i.e. if your terminal is connected via a peri-processing connector to a microprocessor for instance, simultaneous bi-directional exchanges will be possible ;  
if you are working on-line, i.e. if your terminal is connected via its internal modem to a remote host or access point, the peri-processing

connector will only allow unidirectional exchanges and will behave as an output interface for a printer.

If you are working in the local or on-line mode, changeover to the remote processing standard can be controlled:

- from the access point, host or peripheral (see page 21)
- or from the keyboard:

 (American ASCII set)

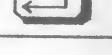
**Teleprocessing Standard**

The teleprocessing standard enables you to consult data bases in accordance with standard ISO 6429. On entry into the teleprocessing standard, the terminal is in a defined initial state. By use of the controls obtained using the **Fnct** key, you can modify some of the terminal characteristics.

In the teleprocessing standard, the Teletel function keys generate sequences which are different from the Teletel standard (encoding corresponds to the function keys of a teleprocessing terminal).

Codes emitted by function keys:				
Index	(PF1)	1/B	4/F	5/0
Cancel	(PF2)	1/B	4/F	5/1
Previous	(PF3)	1/B	4/F	5/2
Repeat	(PF4)	1/B	4/F	5/3
Send	(PF8)	1/B	4/F	4/D
Correction	(PF6)	1/B	4/F	6/C
Guide	(PF5)	1/B	4/F	6/D
Next	(PF7)	1/B	4/F	6/E

To obtain the codes corresponding to:

Press simultaneously on:		
LF (line feed by one line)	0/A	
BS (backspace)	0/8	
TAB (horizontal tabulation)	0/9	
VT (vertical tabulation)	0/B	
DEL (delete character)	7/F	
CAN (delete line)	1/8	
CR (carriage return)	0/D	

**Teleprocessing Standard**

American ASCII set (80 columns per fault)

 then   
simultaneously

**Keyboard**

Initial state

The writing keys are in the lower case mode. Change over to the upper case mode requires the simultaneous depressing of the key  and the corresponding letter.

Modifications

Put the keyboard into the upper case mode.

Return to initial state.

Controls

 then   
simultaneously

 then   
simultaneously

The cursor control and editing keys  and  are active.

NB:  
The editing functions are controlled by the service.

All the control characters or the C0 set are available by combining action on the  key with some of the other keys of the keyboard (see page 14).

**Screen**

Initial state

The screen is in the scroll mode, i.e. at the end of a screen page, it rolls up automatically (except for row 0) so that you can write beyond the screen limit.

Modifications

Put the screen into the page mode.

Return to the scroll mode.

Controls

 then   
simultaneously

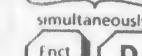
 then   
simultaneously

The screen is a 80 column screen to ISO 6429 standard with the American ASCII set.

Put the screen into 40 columns (in the initially chosen set).

Return to initial state

 then   
simultaneously

 then   
simultaneously

## Teleprocessing Standard

## Modem

## Initial state

The transmit-receive speed is: 75/1200 Bauds

## Remarks:

- The PCE, if activated to Teletel standards, remains on after changeover to the teleprocessing standard
- No modem parameter is modified on changeover from one standard to another.

## Connector

## Initial state

Terminal on local: two-way simultaneous exchanges (non-inhibited connector).

Terminal on-line: unidirectional exchanges. The connection is then an output interface for a printer (connector inhibited).

The standard speed of exchanges by the connector is 1200/1200 Bauds.

## Modifications

Return to the modem at 75/1200 Bauds to have two terminals units communicate between one another (opposed mode). This operation is only possible from the keyboard in the local mode. The modem status is preserved on standard changeover.

Return to the initial state

## Controls



two times Connexion Fin

## Modifications

Modify the connector inhibition state. (Standby)  
Inhibition of connector locally or disinhibition on line.

Return to the initial state

## Controls

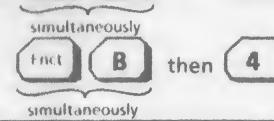


## Modifications

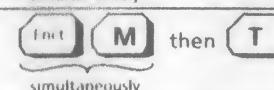
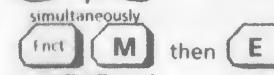
300/300

1200/1200

4800/4800



## Controls



## Terminal

## Initial state

The echo is by the terminal in the local mode and by the access point or the service in the on-line mode.

Invert the echo rule: inhibit the terminal in the local mode and activate the terminal echo in the on-line mode.

Return to initial state

Return to the Videotex mode Teletel standard.

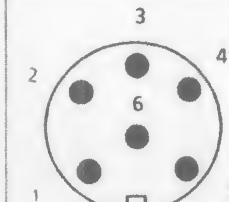
## Peripheral peri-processing connector

This is a DIN 6-pin connector, the electrical levels of which are of the RS 232 C and TTL type.

Three transmit/receive channels (balanced) are available at 300, 1200 and 4800 Bauds.

The peri-processing connector (or DIN connector) can be linked with a micro-computer, printer, memory card reader or any other peripheral.

## PRINTER CONNECTOR (RS 232 C - TTL)



1. RX (V28)
2. RX (TTL)
3. OV
4. TX (TTL)
5. TX (V28)
6. DTR (V28)

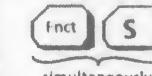
## At teleprocessing standard

- If the terminal is on-line, exchanges by the connector are unidirectional. The connector, in this case, is designed to receive a printer.
- If the terminal is in the local mode, exchanges by the connector are bidirectional and simultaneous.

Protocol controls on the connector are no longer available.

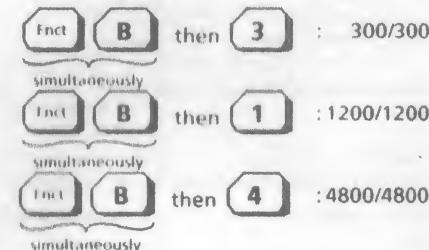
## At Teletel standard

Exchanges by the connector are bidirectional and simultaneous. Depending upon which peripherals are on-line and which standard or mode is being used, it may be necessary to inhibit the connector. In this case, use the control:



Inhibition is suppressed using the same control.

The standard rate of exchanges by the connector is 1200-1200 Bauds. This rate can be modified by:



The change of rates is obtained by controlling a new selection.

**Copy on printer, modem****Copy on printer**

screen copy printout is a particular case of the utilization of a peripheral plugged into a peripheral processing connector.

Situations vary according to the mode (Videotex or teleprocessing) and the type of printer you have available.

**Videotex mode**

If you have a Videotex compatible printer, i.e. reproducing semi-graphic characters with their attributes, follow the printer operating instructions.

**For both standards**

If you have a standard printer, you can also copy a screen after inhibition of the connector by the controls indicated below. The graphics will be lost, as well as the Videotex attributes if you are in the Videotex mode.

To inhibit the connector:



To copy a screen (40 or 80 columns):



If the printer is working with an American ASCII set

To stop a copy underway, use the **Cancel** key.

**NB.:**

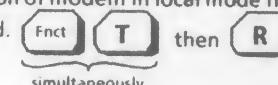
Whatever standard and type of printer being used, printout is limited to the displayed screen. In addition, printout is on 40 or 80 columns, depending on the choice you made previously for the screen format. Row 0 is not printed.

**Modem**

The modem operates by frequency modulation in accordance with CCITT recommendation V23. In its initial state, the internal modem receives information at a rate of 1200 Bauds and transmits at 75 Bauds. Transmit-receive exchanges are simultaneous in both directions; The modem is reversible and can therefore transmit at 1200 Bauds and receive at 75 Bauds.

There are two possibilities:

- Modem return to on-line mode from access points of host or peripheral
- Opposition of modem in local mode from keyboard.



or from peripheral.

**Example of turn-around utilizations to Teletel standard**

- The use of terminal associated with a memory card reader

The latter, considered as a peripheral, controls the return of the internal modem by transmitting a specific sequence

The card then sends the entire content of its memory toward the central computer.

Having acknowledged data reception, the distant computer sends, in turn, a sequence requesting the modem turn-around before transmitting an answer.

- Use of terminal associated with a microcomputer

Modem turn-around is particularly advantageous when the content of a floppy disk has to be sent, or a program remote-loaded, or text or data sent to another computer

**Main control sequences**

(Change of standard or Terminate mode)

**Prestel standard****Changeover from Prestel standard to teleprocessing standard**

Controls received	Acknowledgements		
	Transmitted sequences	Connector	Modem
Terminal in local	From connector		NO
	From keyboard		NO
Terminal on-line	From connector	1/B 5/B 3/F 7/B	NO
	From keyboard		NO

**Change from Prestel standard to Videotex mode Teletel standard**

Controls received	Acknowledgements		
	Transmitted sequences	Connector	Modem
Terminal in local	From connector		NO
	From keyboard		NO
Terminal on-line	From connector		NO
	From keyboard		NO

**Main control sequences**

(Change of standard or Terminate mode)

**Teletel standard**

In the Teletel standard, changeover to the mixed mode can only be controlled from an access point and from the host (by the modem) or peripheral (by the peri-processing connector).

**Change from Videotex mode to mixed mode**

Controls received		Acknowledgements		
		Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 3/A 3/2 7/D	1/3 7/0	●
Terminal on-line	From modem	1/B 3/A 3/2 7/D	1/3 7/0	●
	From connector	1/B 3/A 3/2 7/D	1/3 7/0	●

**Change from mixed mode to Videotex mode**

Controls received		Acknowledgements		
		Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 3/A 3/2 7/E	1/3 7/1	●
Terminal on-line	From modem	1/B 3/A 3/2 7/E	1/3 7/1	●
	From connector	1/B 3/A 3/2 7/E	1/3 7/1	●

**Changeover from Teletel standard to Prestel standard**

Controls received		Acknowledgements		
		Transmitted sequences	Connector	Modem
From keyboard				

**Main control sequences**

(Change of standard or Terminate mode)

**Remote processing standard**

Changeover from the teletel standard to the remote processing standard can be achieved from the keyboard, but also from the access point and host (by the modem) or the peripheral (by the peri-processing connector).

**Changeover from Teletel standard to teleprocessing standard**

Controls received		Acknowledgements		
		Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 3/A 3/1 7/D		●
	From keyboard			●
Terminal on-line	From modem	1/B 3/A 3/1 7/D		●
	From connector	1/B 3/A 3/1 7/D	no acknowledgement	
	From keyboard		no acknowledgement	

\* This control causes changeover to the G0 set (American ASCII set); changeover from the G0 set (American ASCII set) to the G1 set (French ASCII set) is obtained by S0 (O/E) and return from G1 to G0 by S1 (O/F).

**Change from teleprocessing standard to Videotex mode Teletel standard**

Controls received		Acknowledgements		
		Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 5/B 3/F 7/B	1/3 5/E	●
	From keyboard		1/3 5/E	●
Terminal on-line	From connector	1/B 5/B 3/F 7/B	1/3 5/E	●
	From keyboard		1/3 5/E	●

**Glossary****ASCII**

American Standard Code for Information Interchange. Standardized encoding of 7 bits for data transmission.

**CCITT recommendation V23**

Technical recommendation made by the comité consultatif International Télégraphique et téléphonique, a standardization organisme defining the characteristics of 1200/75 bauds asymmetric modems used by european Videotex terminals.

**Baud**

Unit of measurement of flow rates or telecommunications expressed in bits per second (bps).

**Local echo**

A local echo is active when the character entered on the keyboard is transmitted and displayed simultaneously and directly on the screen.

**CSI (Command Sequence Introducer) set**

Sequences of commands defined in standard ISO 6429

**C0 set**

Set of commands from the Videotex standard (CEPT 2).

**Videotex mode**

Teletel standard mode characterized by:

- a 40-column screen
- a standard Minitel keyboard with teletel function keys (   ... ),
- possible utilization of the cursor management and editing keys (      keys) by keyboard extension

**Mixed mode**

Teletel standard mode characterized by:

- 80-column screen (standard ISO 6429) with 1 character sets (american ASCII)
- keyboard with the   keys, cursor control and editing validated, and also

including Teletel function keys



...



**Modem**

The modem handles modulation and demodulation functions by converting the binary digital signals used by the Minitel microprocessor into modulated analog signals sent over the telephone line and vice versa.

**ISO 6429 standard**

International standard defined by the International Organization for Standardization regarding data processing systems.

**Error correction procedure (ECP)**

Procedure designed to correct errors due to telephone network perturbation during reception at 1200 Bauds.

**Teleprocessing standard**

Standard characterized by:

- 80-column screen (standard ISO 6429) with the american ASCII and the possibility of a 40-column screen in the previously chosen set
- a keyboard with   cursor control and editing keys validated and whose Teletel function keys generate sequences other than to Teletel standards (encoding corresponds to the function keys of a teleprocessing terminal PF1, PF2, ...).

**Teletel standard**

Standard comprising two modes: the Videotex mode and mixed mode.

**List of controls: Prestel standard****Controls and definitions of parameters**

On energizing, the terminal is in the Prestel standard and Videotex mode.

	<i>Initial state</i>	<i>Modifications</i>	<i>Controls</i>
<b>Keyboard</b>	Writing in upper case	<b>Locking in lower case</b> Return to initial state	  then    then 
		Cursor control and editing keys active. Automatical repetition	
<b>Screen</b>	Screen in page mode	<b>Screen in scroll mode</b> Return to page mode	  then    then 
<b>Modem</b>	ECP inactive	<b>Request for ECP activation</b>	  then 
	Speed 1200/75 Bauds	<b>Modem opposition at 75/1200 Bauds.</b> Return to page mode	  then    then  Disconnection
<b>Connector</b>	All data sent to connector	<b>Inhibit the connector (standby)</b> Return to initial state	   
		<b>Screen copy (after connector inhibition)</b>	 
	Speed by 1200/1200 connector	<b>Modify speed</b> 300/300 1200/1200 4800/4800	  then    then    then 
<b>Terminal</b>		<b>Return to standard Videotex mode</b>	  then 
<b>Terminal</b>		<b>Return to teleprocessing standard</b>	  then 
	Echo by terminal (local) or service (on-line)	<b>Inhibit or request echo</b>	  then 

**List of controls:** Videotex mode Teletel standard

Changeover to Teletel standard: - Videotex mode Teletel standard		
<b>Keyboard</b>	<b>Initial state</b>	<b>Modifications</b>
	Writing in upper case	Locking in lower case Return to initial state   
	Cursor control and editing keys inactive. No automatic repetition.	Activation of these keys: "Keyboard understood" Automatic repetition  
	CSI codes for editing keyboard.	C0 codes if "keyboard understood"  
		Return to Videotex standard keyboard  
<b>Screen</b>	<b>Screen in page mode</b>	<b>Screen in scroll mode</b>    <b>Return to page mode</b>  
<b>Modem</b>	<b>ECP inactive</b>	<b>Request for ECP activation</b>  
	Speed 1200/75 Bauds	<b>Modem opposition at 75/1200 Bauds.</b>      <b>Return to page mode</b>  
<b>Connector</b>	All data sent to connector	<b>Inhibit the connector (standby)</b> Return to initial state    <b>Screen copy (after connector inhibition)</b>  
	Speed by 1200/1200 connector	<b>Modify speed</b> 300/300 1200/1200 4800/4800      
<b>Terminal</b>		<b>Return to standard Videotex mode</b>  
	Echo by terminal (local) or service (on-line)	<b>Inhibit or request echo</b>  

**List of controls:** Mixed mode Teletel standard

	<b>Initial state</b>	<b>Modifications</b>	<b>Controls</b>
<b>Keyboard</b>	<b>Keyboard with keys control active</b>	<b>Return to Videotex standard keyboard</b>	
	Writing in lower case	Locking in lower case Return to initial state	  
<b>Screen</b>	80-column screen scroll mode	Screen in scroll mode Return to initial state	  
<b>Modem</b>	ECP inactive	Request for ECP activation	
	Speed 1200/75 Bauds	Modem opposition at 75/1200 Bauds. Return to page mode	  
<b>Connector</b>	All data sent to connector	Inhibit the connector (standby) Return to initial state	  
		Screen copy (after connector inhibition)	
	Speed by 1200/1200 connector	Modify speed 300/300 1200/1200 4800/4800	    
<b>Terminal</b>		Return to standard Videotex mode	
	Echo by terminal (local) or service (on-line)	Inhibit or request echo	

**NB:**

Commands given with the key are easily stored because the letters are the initials of the parts of the terminal concerned by the control

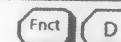
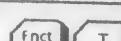
K = keyboard      D = screen (Display)  
 T = transmission      B = connector speed (baud)  
 M = mode      P = printout  
 Similarly, the parameter refers to the function:  
 R = Turn-around (for mode)  
 A = ASCII, American (for the character set)  
 S = upper case or lower case (keyboard shift)

### ***List of controls:*** Teleprocessing standard Controls and definition of parameters

## Changeover to teleprocessing standard

- American ASCII set (80 columns per fault)

Fnct M then A

Initial state		Modifications	Controls
<b>Keyboard</b>	Writing in lower case	<b>Locking in lower case</b>	
		Return to initial state	
<b>Screen</b>	Screen in scroll mode	<b>Screen in scroll mode</b>	
		Return to scroll mode	
<b>Connector</b>	80-column display	<b>Screen in scroll mode</b>	
		Return to initial state	
<b>Terminal</b>	Connector not inhibited in local mode Connector inhibited on-line	<b>Inhibition or disinhibition of connector (standby)</b>	
		<b>Screen copy (after connector inhibition)</b>	
<b>Terminal</b>	Speed by 1200/1200 connector	<b>Modify speed</b>	
		300/300	
		1200/1200	
		4800/4800	
<b>Terminal</b>	Echo by terminal (local) or service (on-line)	<b>Inhibit or request echo</b>	
		<b>Return to Prestel standard mode</b>	

## **Keyboard in teleprocessing standard**

Action on keyboard		Display on screen or transmitted code						
Keyboard key	Alone		with $\langle$ key		with $\langle$ Ctrl key			
	UK ASCII set	French ASCII set	UK ASCII set	French ASCII set	UK ASCII set	French ASCII set		
Send	1B	4F	4D	}		è		
Previous	1B	4F	52					
Repeat	1B	4F	53					
Guide	1B	4F	6D	\		ç		
Cancel	1B	4F	51					
Index	1B	4F	50					£
Correction	1B	4F	6C					ç
Next	1B	4F	6E	{		é		
Local/Line	1B	29	34	0D	1B	29	34	0D
A to Z	Lower case				Upper case			
SPACE BAR	Space				Space			
COMMA	,			-				
FULL STOP	,			।		ù		1C
APOSTROPHE	'					‘		1E
SEMI COLON	;					’		00
HYPHEN	-					+		0B
COLON	:					=		1D
>	>			<				0A
1	1			!				1F
2	2			॥				
3	3			?				
4	4			\$				
5	5			%				॥
6	6			ৈ				
7	7			@		à		
8	8			(				
9	9			)				
0	0							০
*	*							
#	#							
→	1/B 5/B 4/3 Cursor right			1/B 5/B 3/4 6/B Start of character insertion				
←	1/B 5/B 4/4 Cursor left			1/B 5/B 3/4 6/C End of character insertion				
↑	1/B 5/B 4/1 Cursor up			1/B 5/B 5/0 Delete character			7/F DEL	
↓	1/B 5/B 4/1 Cursor down			1/B 5/B 4/D Delete line				
←	0/B Carriage return			1/B 5/B 4/C Insert line				
↑	Home			1/B 5/B 3/2 4/A Delete page				

## Character sets

Mixed-modes - GO																				
Teletel GO																				
Prestel GO																				
0	Sp	0	@	P	P	0	0	@	P	P	0	0	@	P	P					
1	!	1	A	Q	a	q	1	!	1	A	Q	a	q	1	!	1	A	Q	a	q
2	"	2	B	R	b	r	2	"	2	B	R	b	r	2	"	2	B	R	b	r
3	#	3	C	S	c	s	3	#	3	C	S	c	s	3	#	3	C	S	c	s
4	\$	4	D	T	d	t	4	\$	4	D	T	d	t	4	\$	4	D	T	d	t
5	%	5	E	U	e	u	5	%	5	E	U	e	u	5	%	5	E	U	e	u
6	&	6	F	V	f	v	6	&	6	F	V	f	v	6	&	6	F	V	f	v
7	'	7	G	W	g	w	7	'	7	G	W	g	w	7	'	7	G	W	g	w
8	(	8	H	X	h	x	8	(	8	H	X	h	x	8	(	8	H	X	h	x
9	)	9	I	Y	i	y	9	)	9	I	Y	i	y	9	)	9	I	Y	i	y
10	*	:	J	Z	j	z	10	*	:	J	Z	j	z	10	*	:	J	Z	j	z
11	+	:	K	←	k	1/4	11	+	:	K	[	k	]	11	+	:	K	[	k	]
12	-	<	L	1/2	l	1/2	12	-	<	L	1/2	l	1/2	12	-	<	L	1/2	l	1/2
13	-	=	M	→	m	3/4	13	-	=	M	]	m	3/4	13	-	=	M	]	m	3/4
14	.	>	N	↑	n	÷	14	.	>	N	↑	n	÷	14	.	>	N	^	n	-
15	?	0	#	o	o	o	15	?	0	o	o	o	o	15	?	0	o	o	o	o